

Reviewing coliform sampling procedures: Part 2 of a three-part series

Using standard terms for coliform samples

The first article in this series about coliform sampling (which discussed how to fill out a water sample submittal form) closed with the question, “How many sample types do you think are mentioned in the Total Coliform Rule?”

Our goal in this article is to describe the three types of samples that are actually mentioned in the TCR (yes, *only* three) and try to build support for the idea that laboratories, water systems, and regulators would all be better off if we could standardize the terminology in this area.

“There are only three sample names mentioned in the TCR: routine, repeat, and special purpose.”

Over the years, a variety of names for the three samples have arisen in different parts of the state leading to some confusion. A review of the standard terms seems in order.

Routine Samples. *Routine samples are the regularly scheduled samples that a water system is required to take each month.* (There are some exceptions to monthly sampling, but we are not going to discuss those in this article because it would lead us away from our main topic.)

Most Idaho water systems take fewer than five routine samples per month. The number of routine samples is based on population served.

Routine samples are collected each monitoring period according to an approved monitoring plan. The number of routine samples only changes under the following circumstances:

- If a system is taking fewer than five routine samples and has a total coliform-positive sample, it must increase the number of routine samples to five in the following month.

This is a common source of confusion, because people tend to refer to these **extra routine samples** by names

such as “confirmation samples” or “follow-up samples,” and so forth. *The standard term, however, is **extra routine samples**.*

- A system may have to increase the number of routine samples as a result of growth in population served.

Repeat Samples. *Repeat samples are the samples that must be taken when a routine sample turns out to be positive.* Systems taking more than one routine sample per monitoring period must take at least three repeat samples within twenty-four hours after learning that a routine sample was positive.

Systems taking only one routine sample per month must take four repeat samples within twenty-four hours. Repeat samples must be located as follows:

- At the site of the original positive routine sample.
- At a location within five connections upstream of the original positive.
- At a location within five connections downstream of the original positive.

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Water systems may use any lab certified by Idaho

Remember...water systems may use any laboratory certified in Idaho to perform drinking water analyses. Systems are not restricted to certain labs.

Not all labs, however, analyze for (or are certified to analyze for) all of the bacterial or chemical contaminants required by the Safe Drinking Water Act.

It is the responsibility of the customer to contact the laboratory regarding which analyses labs are certified to perform.

You can find a list of the state's certified labs at www.deq.state.id.us/water/assist_business/pws/labs_certified.xls.

- At another representative location within the distribution system (for systems that must take four repeat samples).

Once the maximum contaminant level (MCL) has been exceeded and the state has been notified, you may cease to take repeat samples. In other words, it is usually not necessary to take repeat samples following repeat samples that turn out to be positive, since for all but large systems, two positive samples in a monitoring period constitute an MCL violation.

The next step is to return to compliance by correcting the cause of the MCL violation.

Special Purpose Samples. *Special purpose samples are taken by the water system to determine if disinfection practices following water system construction have been adequate, or to determine if a contamination event has been successfully cleared up.*

System construction has led to a second common name for special purpose samples: “construction samples.” (“Construction” can include such activities as pipe placement, replacement of equipment, and repairs.)

Special purpose samples do not count toward compliance with the TCR. They allow your water system to assess the bacterial quality of the water without worrying about generating regulatory violations.

In summary, for purposes of standardization, it would be better if we could say that there are only three legitimate sample names: *routine*, *repeat*, and *special purpose*. Unfortunately, the special purpose sample has at least three names in common usage and it is not likely that we will be able to escape that fact.

A lot of confusion and unnecessary rule violations could be avoided, however, if we agree to pay careful attention to how we refer to the two categories of samples that count

Arsenic-affected systems demonstrating need can apply for deadline extension

Background

- In 2001, EPA lowered the arsenic maximum contaminant level (MCL) to 10 ppb, which becomes effective January 23, 2006.

Compliance with New Arsenic Standard

- All affected *community water systems and non-community non-transient systems* must comply with the 10 ppb standard by January 23, 2006.

Extension Option

- DEQ offers an extension option for system owners to enter into a negotiated Compliance Agreement Schedule to give systems time to complete modifications that will reduce exposure to arsenic.

- Entering into an agreement will prevent a system owner from accruing violations and penalties.
- Check with your local DEQ regional office or district health department for details on how to obtain a Compliance Agreement Schedule, or see Issue # 36 of the Idaho Drinking Water Newsletter.

Critical Dates

- October 1, 2005 – date by which a PWS needs to submit an extension request to DEQ to guarantee a review by January 23, 2006.
- January 23, 2006 – date by which a PWS needs to have an approved Compliance Agreement Schedule if requesting one.

toward compliance—routines and repeats—and make an effort to abandon alternative names.

In the final article of this three-part series, we will have a little more to say about the public health purpose of these three types of samples.

We will also talk about responding to positive samples and protecting your customers from illness. ■

E. coli

is the abbreviated name of the bacterium *Escherichia* (genus) *coli* (species). The genus *Escherichia* (pronounced *esh-arick-ēa*) is named for Dr. Theodor Escherich, an Austrian pediatrician (1857-1911) who originally described the bacterium in 1885.



Safe Drinking Water Hotline

For general information on drinking water call:

1-800-426-4791

Monday - Friday, 9am - 5pm EST
(excluding Federal holidays)

or

contact EPA's
Safe Drinking Water web site at:
www.epa.gov/safewater/hotline/

Free resources for small water systems

From the Safe Drinking Water Trust

eBulletin: A free resource for small systems

If you have not already, you might want to check out the Safe Drinking Water Trust's free email newsletter – eBulletin at <http://bulletin.crg.org/>.

The Safe Drinking Water Trust is a program of the Rural Community Assistance Program (RCAP).

RCAP sends out eBulletin electronically every three weeks, which contains informational articles focusing on providing water and wastewater professionals with the most recent regulatory information and management tools.

The website includes water and wastewater articles and resources, a glossary of water and wastewater terms, links to free publications, an online form whereby water and wastewater questions can be asked and answers received from other professionals, easy-to-use guides and procedures, links to hundreds of industry resources, and a financing inquiry forum whereby information can be requested about project financing.

If after looking at the latest copy of eBulletin at <http://bulletin.crg.org/>, you decide to subscribe to the free bulletin, go to www.watertrust.org and fill out the subscription form.

If you do not want to subscribe, just check the web site about every three weeks to view the latest edition. ■



Attention small public water systems using groundwater

EPA makes free Preventive Maintenance Card File available to small systems

EPA has developed a simple preventive maintenance tool for small groundwater systems. The "Preventive Maintenance Card File for Small Public Water Systems Using Ground Water," provides a schedule of routine operation and maintenance tasks for the system operator.

MONTHLY			
MONTHLY			
MONTHLY			
MONTHLY			
Monthly Water Quality Sampling Log Card* Year _____			
Month	Take Coliform Sample (✓)	Take Other Samples (✓)	Notes or Comments
Jan.			
Feb.			
March			
April			
May			
June			
July			
Aug.			
Sept.			
Oct.			
Nov.			
Dec.			

*Remember to photocopy the log card for future use before filling it out.

The goal of this card file is to help small systems understand the basics of conducting preventive maintenance.

The free maintenance kit is comprised of an instructional "guide booklet," index log cards, and a card file box. The set of log cards (see sample card above) is divided into sections that list daily, weekly, and monthly maintenance tasks, with individual sections that outline specific tasks for each month of the year, e.g., **"Recommended October Operational Duties."** Each log card provides space to record tasks completed and to jot down notes.

The cards also provide some security measures that water systems should conduct to help prevent loss of service through mischief, vandalism, or terrorist acts.

In addition to ordering the kit, you can download these tools free from www.epa.gov/safewater/smallsys/ssinfo.htm. For your information, if you do download the information, the guide booklet is about 40 pages in length, and the card file is 140 pages.

You may order these tools at no cost from the Safe Drinking Water Hotline at (toll free) 1-800-426-4791. Please reference document number EPA 816-K-03-002 (Guide Booklet) or EPA 816-B-04-002 (Card File) when requesting copies. ■

T R A I N I N G						S C H E D U L E					
Class/Sponsor			Location/Date			Class/Sponsor			Location/Date		
Vulnerability Assessment (IRWA)			Orofino, Sept 7			Water Tank Maintenance (BE)			Boise, Oct 20		
Vulnerability Assessment (IRWA)			Grangeville, Sept 8			Collections I-II Review (BE)			Lewiston, Oct 25		
WW I-II Certification Review (BE)			Caldwell, Sept 13-14			Collections Management (BE)			Lewiston, Oct 26		
WW I-II Certification Review (BE)			Nampa, Sept 15-16			Collections III-IV Review (BE)			Lewiston, Oct 27		
Troubleshooting Water Systems (BE)			Nampa, Sept 17			VSWS Certification Review (BE)			Twin Falls, Nov 1		
VSWS Certification Review (BE)			Grangeville, Sept 20			Small Water Operation & Maintenance (BE)			Boise, Nov 3		
Biological Nutrient Removal (BE)			Moscow, Sept 21-22			Lagoon Operation & Maintenance (BE)			Grangeville, Nov 15-16		
Vulnerability Assessment (IRWA)			Bonners Ferry, Oct 4			Vulnerability Assessment (IRWA)			Chubbuck, Nov 16		
Vulnerability Assessment (IRWA)			Moscow, Oct 6			SCADA (BE)			Buhl, Nov 29		
Land Application (BE)			Moscow, Oct 6-7			Hands-on Pumps/Motors (Water/WW) (BE)			Meridian, Nov 30		
Leak Detection (BE)			Coeur d'Alene, Oct 8			For further information, contact the following: <i>(BE) = Brown Environmental, Inc.</i> <i>1-800-543-4358 or for the Boise area, 1-208-465-5725.</i> <i>Web site: www.idahooperatortraining.com.</i> <i>(IRWA) = Idaho Rural Water Association,</i> <i>1-800-962-3257 or 1-208-343-7001.</i> <i>Fax: 1-208-343-1866. E-mail: irwa@idahoruralwater.com.</i> <i>Web site: www.idahoruralwater.com/index2.htm.</i>					
WW I-II Certification Review (BE)			Worley, Oct 12-13								
Lab I Certification Review (BE)			Blackfoot, Oct 18								
Water Tank Maintenance (BE)			Pocatello, Oct 19								

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